Conclusion. Salvage HDR prostate brachytherapy appears to be feasible and effective. However we think that in patients with local recurrence after EBRT more HDR brachytherapy, should be propose another therapeutic option in the rescue, for its possible side effects.

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Salvage I125 brachytherapy for local prostate cancer recurrence after radiotherapy

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Introduction. Depending on prognostic factors, between 10 and 60% of prostate cancer patients treated with radiation therapy can develop local recurrence. The only radical strategy for these patients, although not without complications, is local treatment. I125 brachytherapy seems an alternative to achieve disease control.
Objective. Retrospectively to analyze short and intermediate-term outcomes and toxicity after salvage BT with I125 for local failure after BT or EBRT for prostate cancer.
Material/methods. From November 2006 to September 2012, 22 patients with PSA relapse (Phoenix definition for those with previous AD and ASTRO definition for the rest), after histological confirmation with template-guided biopsy, underwent salvage BT with I125 at least 2 years ago from initial treatment (8 BT and 14 EBRT). At relapse, average age was 71 years old (58–82), median Gleason was 7 (not determinated-9) and PSA pre-salvage BT 5.95 ng/ml (2.81–11.7). 5 patients were treated with AD previously salvage BT. The median dose to 90% of prostate volume was 128.8 Gy (84.18–151.47) with a median seed activity of 0.461 mCi (0.319–0.518). Constraint doses for urethra and rectum were 162 Gy and 120 Gy respectively. Toxicities were graded using CTCv4.0.
Results. With a median follow up was 18 months (2–60), 16 (72.7%) patients are freedom from biochemical failure. 6 patients have developed PSA relapse (2 with distant failure evidence and 2 within the first 6 months). There were 2 Grade 3 toxicities (TURP after acute urine retention) and 2 Grade 2 toxicities (acute rectal mucositis and acute cystitis in the same patient).
Conclusion. Despite of the short follow-up in some patients, BT is a safe and effective treatment option for salvage treatment, but careful patient selection is essential to improve outcomes.

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Selection criteria for IC/IS MR based IGABT for cervical cancer

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Introduction. At our institution 3D MRI based Intracavitary (IC) or Intracavitary/Interstitial (IC/IS) Brachytherapy protocol has been recently introduced for cervical cancer. Our criteria to select the IC/IS approach are: (a) large tumors with poor response to EBRT that cannot be covered with IC alone. (b) Patients with unfavourable OARs topography (independently of the tumor size). (c) Tumors with large residual GTV after EBRT where higher HRCTV/GTV dose might be desirable.
Materials and methods. For 3 patients representative of the mentioned criteria, DVH parameters have been investigated, comparing 2 clinical plans (prescription 4sessions × 7 Gy) for each patient, IC/IS and IC only. (a) Large FIGO IIIB tumor (pelvic wall) with poor response. Tumor width of 7.3 cm at diagnosis, and 6.0 cm at time of BT was treated with Utrecht IC/IS applicator and 2 parametrial needles per side (Nucletron, Veenendaal, The Netherlands). (b) Small FIGO IIB tumor with minimal unilateral proximal parametrial invasion (cervix width of 3.5 cm at diagnosis and 3.5 cm at BT time), with good response and unfavourable OAR topography because bowel loops are proximal to the target. (c) FIGO IIB tumor with proximal unilateral parametrial invasion, with large residual GTV (tumor width of 5.0 cm at diagnosis and 3.5 cm at BT).
Results. (a) IC/IS method HRCTV coverage is D90IC/IS = 7.9 Gy while for IC is D90IC = 6.7 Gy (difference of 18.1%), this means V100IC/IS = 97.4% vs. V100IC = 86.9% with the same OAR dose. (b) HRCTV-D90IC/IS = 7.4 Gy vs. D90IC = 6.8 Gy (increase D90 in 9% and increase V100 in 10%) for the same dose to the most restricting OAR. D2cc (Bowel Loops) = 4.6 Gy. (c) For cases where a dose increase to the GTV is preferable, GTV-V150IC/IS is 18.7% higher (89.2% vs. 75.3%) and GTV-V200IC/IS is 62.0% higher (40.5% vs. 25.0%).
Conclusion. In our experience, the implementation of the IC/IS is justified by our preliminary dosimetric results.

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